

REMARKS/ARGUMENTS

Double Patenting

Claims 40-63 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 46-47 of co-pending Application No. 10/810,433. The Applicant is submitting herewith a Terminal Disclaimer in compliance with 37 C.F.R. §1.321(c), to overcome the double patenting rejection with regard to the co-pending application 10/810,433.

Claim Objections/Rejections

The present application includes pending claims 3, 4, 6, 7, 9, 10, 13, 14, 16, 17, 19, 20, 23, 24, 26, 27 and 29-66, of which claims 3, 4, 6, 7, 9, 10, 13, 14, 16, 17, 19, 20, 23, 24, 26, 27 and 29-63 stand rejected. Claims 31-33 have been amended, as set forth above, to further clarify the language used in these claims and to further prosecution of the present application. New claims 64-66 have been added. The Applicant respectfully submits that the claims define patentable subject matter.

Claim Rejections under 35 U.S.C. § 102

With regard to the anticipation rejections under 35 U.S.C. § 102, MPEP 2131 states that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP 2131 also states that “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Rejection of Claims 9, 19, 29, 31-33, 46, 54 and 62 under 35 U.S.C. § 102(e)

Claims 9, 19, 29, 31-33, 46, 54 and 62 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Wright et al. (US Patent 5,648,992, hereinafter "Wright"). Claims 31-33 are independent claims, which have been amended.

Rejection of Claims 9, 19, 29 and 31-33

In support of the rejection of independent claims 31-33, the Office Action asserts that Wright teaches "the processor 25 implements a gain control procedure via using, the quality metrics, Rssi, Fvar, Tvar to determine the gain selection..." (citing Wright, col. 4, lines 60-63, the gain control step 110, FIG. 4, and gain procedures in "FIG. 9). See Office Action, page 5. However, Wright does not teach "determining a gain for said dwelled-on at least one of a plurality of antennas, wherein said gain is based on at least one of a plurality of power coupling parameters" as is recited in the amended independent claims 31-33. Since Wright does not teach all the elements of the amended independent claims 31-33, and therefore cannot anticipate under 35 U.S.C. § 102(e), the Applicant respectfully requests that the amended independent claims 31-33 be allowed. In addition, the Applicant respectfully reserves the right to argue additional reasons that support the allowability of the independent claims 31-33 should that need arise in the future.

Based on at least the foregoing, the Applicant believes the rejection of the amended independent claims 1, and 20 under 35 U.S.C. § 102(e) as being anticipated by Wright has been overcome and respectfully requests that the rejection be withdrawn. Additionally, since the dependent claims 3, 4, 6, 7, 9, 10, 34 and 35 depend on the independent claim 31, the dependent claims 13, 14, 16, 17, 19, 20, 36 and 37 depend on the independent claim 32, and the dependent claims 23, 24, 26, 27, 29, 30, 38 and 39 depend on the independent claim 33, the Applicant respectfully requests that the

rejection of these claims also be withdrawn. In addition, the Applicant respectfully reserves the right to argue additional reasons that support the allowability of the independent claims 3, 4, 6, 7, 9, 10, 13, 14, 16, 17, 19, 20, 23, 24, 26, 27, 29 and 30-39 should that need arise in the future.

Rejection of Claims 46, 54, 62

The Office Action rejects dependent claims 46, 54 and 62 as being anticipated by Wright. However, claim 46 depends on the independent claim 40, claim 54 depends upon the independent claim 48 and claim 62 depends upon the independent claim 56. See Office Action, page 4. None of the independent claims 40, 48 and 56 are anticipated by Wright. Since Wright does not anticipate the independent claims 40, 48 and 56, and therefore cannot anticipate the respective dependent claims 46, 54 and 62 under 35 U.S.C. § 102(e), the Applicant respectfully requests that the dependent claims 46, 54 and 62 be allowed. In addition, the Applicant respectfully reserves the right to argue additional reasons that support the allowability of the independent claims 46, 54 and 62 should that need arise in the future.

Based on at least the foregoing, the Applicant believes the rejection of the dependent claims 46, 54 and 62 under 35 U.S.C. § 102(e) as being anticipated by Wright has been overcome and respectfully requests that the rejection be withdrawn.

Claim Rejections under 35 U.S.C. § 103(a)

Rejection of claims 3, 4, 6, 7, 10, 13, 14, 16-17, 20, 23, 24, 26-27, 30, 34-45, 47-53, 55-61, 63 under 35 U.S.C. § 103(a)

The Office Action asserts that the claims 3, 6, 13, 16-17, 23, 26-27, 34-41, 43-45, 48-49, 51-53, 56-57 and 59-61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright in view of Miyana et al. (US Patent Application

2002/0168,039 A1, hereinafter Miyanaaga). The Office Action asserts that the claims 4, 14, 24, 42, 50 and 58 are rejected under 35 U.S.C. § 103(a) as being as being unpatentable over Wright in view of Miyanaaga and Suzuki (US Patent 5,787,122). The Office Action asserts that the claim 7 is rejected under 35 U.S.C. § 103(a) as being as being unpatentable over Wright in view of Lyons (US Patent 6,922,549 B2). The Office Action asserts that the claims 10, 20 and 30 are rejected under 35 U.S.C. § 103(a) as being as being unpatentable over Wright in view of Todd (US Patent 6,002,672). The Office Action asserts that the claims 47, 55 and 63 are rejected under 35 U.S.C. § 103(a) as being as being unpatentable over Wright in view of Miyanaaga, as applied to claims 40, 48 and 56, and further in view of Todd. Claims 40, 48 and 56 are independent claims.

Rejection of Claims 40, 48 and 56

In support of the rejection of claims 40, 48 and 56, the Office Action states that Wright teaches: "dwelling on selected antenna 1 or 2" (citing Wright, step 201 and FIG. 8); a processor that implements a gain control procedure using RSSI, Fvar and Tvar quality metrics (citing Wright, col. 4, lines 60-63, step 110 in FIG. 4, and FIG. 9); measuring RSSI and "the measured quality metrics, RSSI, BER, Fvar, Tvar, from receiver 26 (citing Wright items 21 and 26 in FIG. 3 and col. 4, lines 53-59); the processor implements antenna diversity selection utilizing quality metrics RSSI, BER, Fvar and Fvar (citing Wright, col. 4, lines 65-67); "selecting L1{n} portion from antenna 1 to process or selecting L2{n} portion from antenna 2 to process" (citing Wright, steps 201, 202 and 203 in FIG. 8); and antenna selection based on determined gain and determined quality (citing Wright, FIG. 9, steps 170, 178 and 180 in FIG. 7. See Office Action, pages 10-15.

The Office Action then states that "Miyanaaga teaches the selecting a starting antenna from said at least one of a plurality of antennas...based on prior history of said selection" (citing Miyanaaga 10a-10z, 24a-24z, item 17 and item 18 in FIG. 1, FIG. 2 and

paragraphs 0027-0028, 0052, 0054 and abstract). See Office Action, pages 11, 14-16. The Examiner then concludes "it would have been obvious to one of ordinary skill in the art at the time the invention was made to upgrade Wright with Miyanaga's antenna branch selection based on the previous selection result..." See Office Action, pages 12, 14 and 16.

In support of a rejection under 35 U.S.C. § 103, "it is never appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection is based." See MPEP § 2144.03(A). The facts asserted to be common knowledge are to be "capable of instant and unquestionable demonstration as being well-known," in other words, the facts are to be of "notorious character." *ibid.* The Applicant respectfully submits that the assertions and conclusions of obviousness, as set forth in the Office Action, do not meet this standard.

The Examiner further concedes that Wright fails to teach "selecting said starting antenna based on prior history of selection of a portion of said dwelled-on at least one of a plurality of antennas as observed across one or more previous frames," as is recited in independent claims 40, 48 and 56. See Office Action pages 11, 14 and 15. However, the Applicant respectfully disagrees with the assertion that it would have been obvious to combine Wright and Miyanaga in the manner suggested in the Office Action for the following reasons.

I. Miyanaga does not Teach a Starting Antenna

Miyanaga does not teach "a starting antenna" as is recited in claims 40, 48 and 56. Instead, Miyanaga teaches a diversity receiver, which utilizes a plurality of antennas to enable the independent reception of signals (Miyanaga, paragraph 0054 and FIG. 1, items 10a to 10z). "A starting antenna" among a plurality of antennas implies that a relationship exists between individual antennas in the plurality of

antennas. However, since Miyanaga teaches that each of the antennas receives signals independently from the other antennas, the Applicant respectfully submits that Miyanaga does not teach "a starting antenna" as is recited in claims 40, 48 and 56.

II. Miyanaga does not Teach Selecting a Starting Antenna Based on Prior History of Antenna Selection

Miyanaga does not teach "selecting said starting antenna based on prior history of said selection of said portion of dwelled-on at least one of a plurality of antennas," as is recited in claims 40, 48 and 56. Contrary to the assertions set forth in the Office Action, Miyanaga does not teach that the selection storage unit (Miyanaga, paragraph 0060 and FIG. 1, item 18) is utilized to enable selection of a starting antenna based on prior antenna selection history. Instead, what Miyanaga teaches is that the diversity receiver is able to concurrently receive signals independently via each of the antennas 10a to 10z (Miyanaga, paragraph 0054 and FIG. 1, items 10a to 10z). Each of the detectors 11a to 11z (Miyanaga, paragraph 0056 and FIG. 1, items 11a to 11z) receives the signals from the corresponding antenna 10a to 10z and outputs data strings. As stated above, since the antennas 10a to 10z are able to receive signals independently and concurrently, Miyanaga teaches no notion of a "starting antenna," as is received in claims 40, 48 and 56.

The data detector 15 receives the data strings output from each of the detectors 11a to 11z and determines which (if any) of the received data strings comprise valid data (Miyanaga, paragraphs 0006 and 0058 and FIG. 1, item 15). For each received data string, the data detector 15 generates a corresponding detector signal. The set of output detector signals is sent to a branch selector 16 (*ibid* and FIG. 1, item 16).

In instances when one or more data strings comprise valid data, the branch selector 16 selects one of the data strings, received from corresponding one of the antennas 10a to 10z (Miyanaga, paragraphs 0064-0066 and FIG. 5), where the selected

data string is received via an antenna, which itself is able to receive signals independently and concurrently with respect to the remaining antennas. The branch selector 16 outputs a selection result to the output switching unit 17, which outputs the selected data string (Miyanaga, paragraphs 0058 and 0059 and FIG. 5, items 16 and 17).

Only in instances when none of the data strings comprise valid data does the branch selector 16 select a data string based on a previous selection result stored in the selection result storage unit 18 (Miyanaga, paragraph 0067 and FIG. 5).

Whether one or more data strings comprise valid data or none of the data strings comprise valid data, the branch selector 18 selects a data string received via one of a plurality of antennas, wherein each of the antennas is able to operate independently and concurrently relative to the other antennas. In neither case does Miyanaga teach selecting "a starting antenna". Therefore, the Applicant respectfully submits that Miyanaga does not teach "selecting said starting antenna based on prior history of said selection of said portion of dwelled-on at least one of a plurality of antennas," as is recited in claims 40, 48 and 56.

Since Miyanaga teaches neither "a starting antenna," nor that a starting antenna is selected based on a prior history of antenna selection, the Applicant challenges the assertion relied upon for rejecting claims 40, 48 and 56. Specifically, the Applicant challenges the assertion that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to upgrade Wright with Miyanaga's antenna branch selection based on the previous selection result..." See Office Action, pages 12, 14 and 16. The Applicant respectfully submits that Wright, in fact, teaches away from the approach of Miyanaga:

It is possible to build two entire receive chains (i.e., hardware and software required to detect, demodulate and decode the received signal) in the base station radio, and after each burst is received use data from the burst

with the higher signal strength or the lowest error rate. This technique, often called selection diversity, works very well. Although selection diversity may be very effective in combating the effects of fading, it has several drawbacks.

First, providing a separate receive chain for each of the antennas drives up the cost and complexity of the system. If it is desirable to provide a low cost processor to provide the switching control, a separate receive chain for each antenna may be prohibitive. Furthermore, the added complexity in evaluating the signal as received and demodulated by each receive chain adds to the cost of the processor and requires more complicated programming.

See Wright at col. 1, line 63 – col. 2, line 11. However, if the assertions set forth in the Office Action are based on the personal knowledge of the Examiner, then under MPEP § 2144.03(C) and 37 C.F.R. § 1.104(d)(2), the assertions must be supported by an affidavit from the Examiner.

For at least the reasons stated above, the Applicant respectfully submits that independent claims 40, 48 and 56 are not unpatentable over Wright in view of Miyanaga under 35 U.S.C. § 103(a). The Applicant therefore requests these claims be allowed. Additionally, since the dependent claims 41-47 depend on the independent claim 40, the dependent claims 49-55 depend on the independent claim 48, and the dependent claims 57-63 depend on the independent claim 56, the Applicant respectfully requests that the rejection of these claims also be withdrawn. In addition, the Applicant respectfully reserves the right to argue additional reasons that support the allowability of the independent claims 40-63 should that need arise in the future.

Rejection of Claims 3, 4, 6, 7, 10, 13, 14, 16-17, 20, 23, 24, 26-27, 30 and 34-39

For at least the reasons stated above, since claims 3, 4, 6, 7, 10, 34 and 35 depend upon independent claim 31, claims 13, 14, 16, 17, 20, 36 and 37 depend upon independent claim 32 and claims 23, 24, 26, 27, 30, 38 and 39 depend upon

independent claim 3 the Applicant submits that these claims are not unpatentable under 35 U.S.C. 103(a) and respectfully requests that the rejection be withdrawn.

CONCLUSION

Based on at least the foregoing, Applicant believes that all claims 3, 4, 6, 7, 9, 10, 13, 14, 16, 17, 19, 20, 23, 24, 26, 27, 29-66 are in condition for allowance. If the Examiner disagrees, Applicant respectfully requests a phone interview, and requests that the Examiner telephone the undersigned at 312-775-8000.

Applicant respectfully reserves the right to argue additional reasons that support the allowability of claims 3, 4, 6, 7, 9, 10, 13, 14, 16, 17, 19, 20, 23, 24, 26, 27, 29-63 should that need arise in the future.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously requested.

Respectfully submitted,

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